

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below. The language being added is underlined (“ ”) and the language being deleted contains either a strikethrough (“”) or is enclosed by double brackets (“[[]]”).

1. (Currently Amended) A Digital Subscriber Line (DSL) communications system comprising:

a central office Asynchronous Digital Subscriber Line (ADSL) transceiver unit (ATU-C) in discrete multitone (DMT) communication with a remote ADSL transceiver unit (ATU-R), wherein the ATU-C comprises a CO operator configured to provide a
~~power spectral density (PSD) mask for perform~~ spectral shaping of a dual bit map (DBM) mode downstream transmission,
the PSD based on a power spectral density (PSD) mask represented by [[an]] the following equation:

$$PSD_{DBMsOL} = K_{ADSL_OL} \times \frac{C}{f_0} \times \frac{\left[\sin\left(\pi \frac{f}{f_0}\right) \right]^2}{\left(\pi \frac{f}{f_0} \right)^2} \times \frac{1}{1 + \left(\frac{f}{f_{LP3dB}} \right)^{12}} \times \frac{1}{1 + \left(\frac{f_{HP3dB}}{f} \right)^6}, \quad 0 < f < \infty$$

where PSD_{DBMsOL} represents the PSD mask, K_{ADSL_OL} represents a constant value, C represents a constant value, f represents a frequency of the downstream transmission, f_0 represents a constant value, f_{LP3dB} represents a 3 decibel (dB) low pass frequency and f_{HP3dB} represents a 3 dB high pass frequency.

2. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 1, wherein K_{ADSL_OL} has a value between 0.0900 watts and 0.1200 watts.
3. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 2, wherein K_{ADSL_OL} has a value of 0.1104 watts.
4. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 1, wherein f_0 has a value between 2.100 megahertz and 2.300 megahertz.
5. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 4, wherein f_0 has a value of 2.208 megahertz.
6. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 1, f_{LP3dB} has a value substantially equal to $\frac{f_0}{2}$.
7. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 1, wherein f_{HP3dB} has a value between 100 kilohertz and 150 kilohertz.
8. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 7, wherein f_{HP3dB} has a value of 130 kilohertz.

9. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 1, wherein C has a value between 0.1 and 10.

10. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 9, wherein C has a value of 2.

11. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 10, wherein f_{HP3dB} has a value of 130 kilohertz.

12. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 11, f_{LP3dB} has a value substantially equal to $\frac{f_0}{2}$.

13. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 12, wherein K_{ADSL_OL} has a value of 0.1104 watts.

14. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 13, wherein f_0 has a value of 2.208 megahertz.

15. (Currently Amended) A Digital Subscriber Line (DSL) communications system comprising:
a central office Asynchronous Digital Subscriber Line (ADSL) transceiver unit (ATU-C) in discrete multitone (DMT) communication with a remote ADSL transceiver unit (ATU-R), wherein the ATU-C comprises a CO operator configured to provide a power spectral density (PSD) mask for perform spectral shaping of a far end cross talk (FEXT) bit map (FBM) mode downstream transmission, the PSD based on a power spectral density (PSD) mask represented by [[an]] the following equation:

$$PSD_{FBMsOL} = K_{ADSL_OL} \times \frac{C}{f_0} \times \frac{\left[\sin\left(\pi \frac{f}{f_0}\right) \right]^2}{\left(\pi \frac{f}{f_0} \right)^2} \times \frac{1}{1 + \left(\frac{f}{f_{LP3dB}} \right)^{12}} \times \frac{1}{1 + \left(\frac{f_{HP3dB}}{f} \right)^8}, \quad 0 < f < \infty$$

where PSD_{FBMsOL} represents the PSD mask, K_{ADSL_OL} represents a constant value, C represents a constant value, f represents a frequency of the downstream transmission, f_0 represents a constant value, f_{LP3dB} represents a 3 decibel (dB) low pass frequency and f_{HP3dB} represents a 3 dB high pass frequency.

16. (Currently Amended) The PSD mask system as in Claim claim 15, wherein K_{ADSL_OL} has a value between 0.0900 watts and 0.1200 watts.

17. (Currently Amended) The PSD mask system as in Claim claim 16, wherein K_{ADSL_OL} has a value of 0.1104 watts.

18. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 15, wherein f_0 has a value between 2.100 megahertz and 2.300 megahertz.

19. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 18, wherein f_0 has a value of 2.208 megahertz.

20. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 15, f_{LP3dB} has a value substantially equal to $\frac{f_0}{2}$.

21. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 15, wherein f_{HP3dB} has a value between 27 kilohertz and 40 kilohertz.

22. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 21, wherein f_{HP3dB} has a value of 32 kilohertz.

23. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 15, wherein C has a value between 0.1 and 10.

24. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 23, wherein C has a value of 2.

25. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 24, wherein f_{HP3dB} has a value of 32 kilohertz.

26. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 25, f_{LP3dB} has a value substantially equal to $\frac{f_0}{2}$.

27. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 26, wherein K_{ADSL_OL} has a value of 0.1104 watts.

28. (Currently Amended) The ~~PSD mask~~ system as in ~~Claim~~ claim 27, wherein f_0 has a value of 2.208 megahertz.